

SECTION 1.0 - EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This Final Environmental Impact Report (FEIR) evaluates the preferred alternative confined aquatic disposal (CAD) sites brought forward for final analysis to designate the preferred alternative from the New Bedford/Fairhaven Harbor Draft Environmental Impact Report (DEIR) by the Commonwealth of Massachusetts (Commonwealth) located in New Bedford and Fairhaven, Massachusetts (Figure 1-0). The DEIR provided a detailed and thorough analysis of a large variety of alternative disposal and dewatering sites and the preferred alternative CAD sites. In total, both reports in composite fulfill the Massachusetts Environmental Protection Act (MEPA) requirements for an EIR. The purpose of the EIR project is to provide state designation of a disposal site in New Bedford/Fairhaven Harbor (Harbor) for dredged material determined to be unsuitable for open-water disposal (hereinafter referred to as “unsuitable dredged material” or UDM). UDM in the Harbor is representative of environmental degradation caused by anthropogenic influences over the past century and a half.

This FEIR follows the Scope specified in the DEIR Certificate issued by the Secretary of the Executive Office of Environmental Affairs (EOEA) on June 14, 2002. It also includes water quality studies relative to dredging permit water quality criteria and model preliminary CAD cell engineering for both preferred alternative CAD cell site areas, Channel Inner (CI) at approximately 90 acres and Popes Island North (PIN) at approximately 80 acres. Additional marine natural resource information required by the DEIR Certificate and preliminary engineering required for these models was very helpful in the determination of the preferred alternative PIN. The preferred alternative model PIN configuration features five moderate capacity cells totaling approximately 250,000 cubic yards (cy) of UDM and one high capacity cell capable of safely holding approximately 1,800,000 cy of UDM, consistent with the Harbor Plan goals and for long-term use consideration (10 and 20 years, consistent with State-wide Dredged Material Management Plan objectives). This FEIR distributes capacity based on the geotechnical characteristics of the PIN area, in a conceptual scheme that serves as the basis for long-term use of the CADs. The specific size and location of individual CADs located within the PIN area will be determined by the specific dredging program developed by New Bedford and Fairhaven. Local state, and federal permitting requirements (or equivalent authorizations – see below) require detailed and site specific information regarding site engineering, chemistry, mitigation, and operations that will be developed by future project proponents.

The FEIR recommends a management structure under which New Bedford and Fairhaven manage CAD use under the terms of a Water Quality Certificate and Chapter 91 Waterways license of permit, or equivalent authorizations. (Under the Record of Decision for the New Bedford/Fairhaven Harbor PCB Superfund project, navigation dredging may be undertaken under the auspices of the state enhanced remedy. If so, the substantive requirements of the state regulatory programs must be met but the certificate, license or permits themselves would not be issued.)

Under this approach, the city and town would manage the CADs subject to applicable local, state, and federal authorizations; a Third party Inspector will provide field oversight for Massachusetts Department of Environmental Protection (DEP); and a Technical Advisory Committee to be determined will assist the DEP in monitoring the CAD operations. The FEIR

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Figure 1-1. Proposed preferred alternatives CI and PIN CAD cell areas in New Bedford/Fairhaven Harbor

anticipates that the management structure for use of the PIN CADs will be formally defined in the development of the Water Quality Certificate or Chapter 91 Waterways license or permit or equivalent.

The Scope specified in the DEIR Certificate includes detailed characterizations of proposed Harbor CAD site areas, an evaluation of alternatives, justification for designation of a site in close proximity to the BBDS, physical, biological, and human use characterizations of the two preferred alternatives, assessment of potential impacts from disposal at the preferred alternatives, and a recommendation of the preferred alternative CAD cell site for state designation. Also included are detailed CAD cell dredging disposal event modeling, and hydrodynamic analysis, management and monitoring of CAD disposal.

Additional geotechnical borings confirmed the depth to bedrock and revealed sediment stratigraphy necessary for preliminary CAD cell engineering including side slope stability design of 1V: 3H. Underwater archaeological surveys showed no major impediments of historical importance to CAD cell development and identified minor fishing industry related debris for potential dredge contractor's consideration. Physical and chemical analysis of surficial sediments guided the definition of four-foot deep UDM horizons important to CAD cell volumes calculations. Surface water analysis supported water column chemistry and hydrodynamic modeling efforts. Macrobenthic sampling and identification of the preferred alternatives showed them to be currently inhabited by opportunistic species exemplary of disturbed habitat typical of degraded environmental conditions. Water column chemistry studies consisting of a series of three interdependent U. S. Environmental Protection Agency (EPA) approved procedures were applied to derive a final water effects ratio (WER), which can be used to adjust default water quality criteria for toxicity to real site-specific criteria and to define appropriate mixing zone under the water quality certification. Preliminary CAD cell configuration and CAD cell construction planning for the preferred alternatives was based on aspects of the additional natural resources information gathered for the FEIR.

Alternatives. Natural resource, geophysical, chemical, and human use information was developed in the DEIR and this FEIR. Preferred alternatives CI and PIN were screened using discretionary factors in this FEIR. The PIN site is selected as the preferred alternative based on its greater capacity, ability to accommodate multiple configurations of CAD cells, more cost – effective capacity (lower cost per cubic yard disposal), location away from main area of harbor operations (i.e., least conflict with heavy commercial and industrial vessel traffic), less impact to shellfish resources through avoidance of potential DMF shellfish relay area, higher ratio of capacity to footprint, and less potential for long-term water quality impacts by protected location behind Popes Island.

Modeling indicates that acute and chronic water quality impacts associated with CAD operation at the CI and PIN sites are generally similar and use of the sites can be managed to comply with applicable standards.

CAD Cell Dredging Disposal Event Modeling and Hydrodynamic Analyses. A field program was run for a full diurnal tidal cycle to provide site-specific tide and current with wind effects data for detailed CAD cell dredging disposal event modeling and hydrodynamic analyses.

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Turbidity modeling and related instantaneous chemical release modeling was conducted for the preferred alternative. When the WER value was applied to predictive hydrodynamic modeling for the PIN, it was shown to allow less restrictive mixing zones yet remains protective to marine organisms. This concludes that water quality impacts from CAD development at the preferred alternative can be permissible.

Disposal Site Management and Monitoring. Disposal site management and monitoring guidelines for the preferred alternative are presented to assist Harbor dredging project proponents, contractors, CAD managers and regulators in developing specific management and monitoring plans on a project-by project basis. Monitoring guidelines are included to ensure adverse impacts are negligible and/or are identified as soon as possible following disposal activities in order to minimize potential impacts on the ecosystem of the Harbor.

Area of Impact. The CI site covers approximately 90 acres; the PIN site covers approximately 80 acres. Within these areas, the footprint of conceptual CAD cells within the CI area cover approximately 20 acres; within the PIN area approximately 35 acres.

Project Mitigation. Non-compensatory and compensatory mitigation measures expected with CAD cell construction and operations are described. Non-compensatory mitigation measures to ensure avoidance and minimization of negative environmental impacts are implicit throughout the document. Examples of these implicit avoidance and minimization steps are summarized. The Primary resources that will be impacted by CAD cells are shellfish (Northern quahogs and soft shell clams), winter-flounder spawning habitat and juvenile winter flounder. The PIN site appears to support higher numbers of juvenile winter flounder and better winter flounder habitat than the CI site. Impacts to juvenile winter flounder will be avoided through the time-of-year restrictions. Impacts to habitat will be minimized through maximizing depth to surface area of the CAD project. Natural sedimentation is expected to replicate existing spawning and juvenile winter flounder habitat over constructed CAD cell caps; artificial habitat mitigation is therefore not proposed.

Direct impacts to shellfish from removal will be mitigated based on consultation with the Division of Marine Fisheries (DMF). The construction proponent(s) may be required to replace a specific quantity of quahogs and clams as a project permit condition. DMF will mathematically formulate the loss of these shellfish per acre of impact due to PIN CAD cell construction as a service for potential proponent(s) on a project-by-project basis in cooperation with local municipal shellfish constables.

Section 61 Findings. Section 61 findings pertinent to the preferred alternative state designation are summarized for the regulatory agencies.

Responses to Comments. Responses to comments in letters received from DEP and DMF on the DEIR are included as part of the MEPA process.

State and Federal Review. This FEIR represents a key milestone in the MEPA review process. Upon approval of this FEIR by the Secretary of Environmental Affairs, the PIN CAD site will be an approved state-designated disposal site for dredged material unsuitable for unconfined open

water disposal. State designation does not constitute authorization for use of the site by specific projects. Any project proposing to use the site must comply with the applicable local, state and federal permitting requirements.

The FEIR identifies the Popes Island North site as the preferred alternative and the least environmentally damaging practicable alternative (LEDPA) site under the federal Clean Water Act. In a parallel process to MEPA review of the FEIR, CZM is working with the U. S. Army Corps of Engineers (USACE), U. S. Environmental Protection Agency (EPA), National Marine Fisheries Service (NMFS), and U. S. Fish and Wildlife Service to determine the LEDPA designation.